REMARKS

In the Office Action of July 14, 2003, the Examiner has rejected pending claims 1-35.

Claims 31 and 33 are rejected under 35 USC 101 as directed to non-statutory subject matter. Claims

9, 10 and 28 are rejected under 35 USC 102(e) as anticipated by US Patent No. 6,453,305 to

Glassman et al. Claims 1-8, 22-26, and 31-35 are rejected under 35 USC 103(a) as unpatentable

over US Patent No. 6,427,140 to Ginter et al. Claims 11 and 29 are rejected under 35 USC 103(a) as

unpatentable over Ginter in view of Glassman. Claims 12-14 and 30 are rejected under 35 USC

103(a) as unpatentable over Glassman in view of Ginter. Dependent claim 27 is rejected under 35

USC 103(a) as unpatentable over Ginter as applied to claim 1 and further in view of Glassman.

The undersigned and the inventors Y. Yemini and A. Dailianas participated in a personal

interview on October 15, 2003 with Examiner Worjloh and her colleague Examiner John Hayes to

discuss the current Office Action. We thank Examiners Worjloh and Hayes for extending to us the

courtesy of an interview. The subject of the interview is set forth in an Interview Summary provided

by the Examiner and mailed by the PTO October 20, 2003. At the interview, significant features of

the invention and possible amendments to claims 1, 5, 9, 11, 12, and 31 to overcome Ginter and/or

Glassman were considered. The claims that were considered are basically the claims as presented

above in the present reply. The remarks set forth herein reflect the substance of the discussions at

the interview.

Claim 1, which is directed to a method of controlling access to a resource in an electronic

system, has been rejected in the Office Action under 35 USC 103(a) in view of Ginter. In the

sections of Ginter cited by the Examiner with respect to claim 1 (see, e.g., Ginter, col. 47, l. 21-30,

56-67; col. 48, l. 1-9), Ginter describes the negotiation of an agreement between two parties, such as

the negotiation of an agreement between a content provider and a distributor for distribution of

content. The price to be paid for the content is the subject of negotiation. Modification of an

agreement requires further negotiations. Payment of the negotiated price is made using, for

example, a VISA account. See col. 266, l. 32-55. In the sections cited from Ginter, no electronic

currency is created under the control of a manager of a resource. Additionally, in Ginter, the amount

of access to a resource is based on the amount of access, or budget, that is purchased by the

purchaser/user of the content. If the user desires additional access, the user purchases an additional

amount of usage. See col. 265, l. 54 to col. 266, l. 19 and col. 54, l. 43-47. Thus, the user

determines the budget, not the seller/provider. In Ginter, it is also the user who determines how to

distribute the budget for any other users within an office.

By contrast, the manager of a resource in accordance with the method of amended claim 1 is

given control over multiple aspects of the access control mechanisms to enable tight control over

access to the resource. According to claim 1, the manager of the resource has control over (1) the

minting of currency, i.e. creating electronic security value units which are usable to gain access to

the resource, (2) budget allocation for a component (whether a stand-alone component or a

component in a group of components) to access the resource, (3) distribution of the electronic

security value units (i.e., dissipation of the allocated budget for a resource) to the component, and (4)

dynamic control over pricing for each access to the resource. This control enables, for example, a

manager of a resource to end an attack on a resource by dynamically raising the price charged for

accessing the resource to an amount above the budgeted amount of currency in electronic security

value units that has been allocated to the component from which the attack is originating. This type

of access control can be used to control access to any form of resource, such as a piece of hardware,

content, a software application, etc. An advantage of the invention is that a pattern of usage by a

component can be detected and access can be limited, terminated, or increased, as desirable.

Some other examples of possible uses enabled by the invention of claim 1 are described in the present specification at page 49 and shown in Figs. 8A and 8B. The example of Fig. 8A is a pricing policy established by the manager of the resource that depends on the time during the day when the resource is used. Fig. 8B shows a pricing policy that depends on the service capacity of a resource that is being used.

Dependent claim 5 was also discussed during the interview. This claim, which is dependent on claim 1, recites that access control is further based on limiting the rate of accesses to said resource by said component. It is clear from the context that the "rate" of accesses means limiting the number of accesses per unit time. An example of this embodiment is described in the Specification at page 50 and shown in Fig. 9. As explained, "[w]ithin each time slot of duration T, the client can spend up to a total of B units of its available budget." Therefore, the resource manager can control the rate R of the client expenditure at any required granularity. Claim 5 has been amended to specify that it is the manager of the resource that controls the rate of access. Limiting the rate of accesses to said resource is not taught or suggested by the sections of Ginter cited by the Examiner, viz., col. 58, lines 19-35, with respect to claim 5.

Independent claim 31 has also been rejected under 35 USC 103(a) as unpatentable over Ginter. Claim 31 is directed to a method of controlling access to an interface in an electronic system, where the interface is one of a hardware access point and a software access point. The Examiner states in the Office Action that access control to an interface is taught by Ginter at col. 7, l. 37-44, which explains that VDE (virtual distribution environment) capabilities may be implemented at an application program interface (API).

As discussed at the interview, however, the Examiner has misread Ginter on this point. In the section cited by the Examiner, Ginter is explaining that certain capabilities of his system may be

implemented at the API. But the initial access to an API with VDE capabilities is permitted by

Ginter. A shortcoming of allowing access to the API in the first instance is that once an attacker has

access to an API the attacker can attack a resource, such as the API itself or other connected

resources. The invention, according to claim 31, prevents any access to the interface itself without

payment of electronic security value units. Ginter does not teach or suggest controlling access to the

interface itself, nor does Glassman.

Independent claim 11 stands rejected under 35 USC 103(a) as unpatentable over Ginter in

view of Glassman. In response, claim 11 has been amended to recite that "access to said resources is

controlled at said one or more interfaces to said one or more resources and said one or more interface

is one of a hardware access point and a software access point." In view of the amendment and the

explanation provided above with respect to claim 31, amended claim 11 should be similarly

allowable.

Independent claim 9 is rejected in the Office Action as anticipated by Glassman. Glassman

discloses an electronic commerce system and method wherein a consumer must obtain vendor scrip

in the form of a license in order to gain access to content on a network. The scrip includes a

consumer properties field, i.e., "props" field, with information about the consumer such as the

consumer's name, age, state of residence, employer, etc. (See e.g., col. 5, lines 9-29) The scrip also

has an expiration date after which access by the user to the content is terminated. (See e.g., col. 5,

line 30-33) Upon issuance of the scrip, the consumer may present the vendor scrip to the vendor

along with the request to access the content. In response, the vendor gathers information about the

consumer to determine whether the consumer belongs to the class allowed to access the content.

This information is gathered from the scrip. If the consumer belongs to the class, then the vendor

determines if a license to access the content is available. A license is available if the number of

other consumers having licenses to access the content is less than the maximum specified in the license agreement. After receiving access, the user has unlimited access to the content until the expiration date in the scrip. The scrip is valid for between a few minutes to an hour (col. 6, lines 61-67). Moreover, each time a consumer accesses content, the vendor returns replacement license scrip having the same or a later expiration date. (Col. 3, lines 14-17). Once access is provided until the scrip expires, the user can access the content numerous times, which may be, for example, millions of times.

Although there is no suggestion in Glassman that the props field include any information regarding the specific resource that a component may access, the Examiner maintains in the Office Action that the props field in Glassman may also contain data relating to the resources the consumer/component may access. Applicants contend, however, that there would be no motivation to substitute for the props field a resource identification field in Glassman because there already exists the separate "vendor" field which only identifies one specific vendor.

Nevertheless, applicants have amended claim 9 to recite that the "second field" in the electronic security value instrument indicates "a specific resource in a specific electronic system that said particular component may access by payment of said electronic security value instrument." Thus, while there may be multiple resources at a particular vendor, the "second field" identifies a specific resource that may be accessed by payment of the electronic security value instrument of claim 9. The claim has also been amended to indicate that the electronic security value instrument is "created under the control of a manager of a group of one or more resources in an electronic system."

Independent claim 12 has been rejected under Glassman in view of Ginter. In the Office Action, the Examiner argues that the limitation "determining the number of accesses that can be

accomplished by said component to said resource based on said budget and said price" is disclosed by "license scrip" in Glassman (col. 5, l. 30-33). License scrip allows a consumer to view content accessed with the scrip until the scrip expires. However, as noted above, in Glassman, once access is provided by the use of the license scrip, the user can access the content numerous times, which may be, for example, millions of times, until the scrip expires. So there is no way to "determine the number of accesses" in accordance with claim 12. This distinction is emphasized by amendments made herein to claim 12 to indicate that a manager of a resource performs steps (a) – (c) of claim 12 including establishing a price of a resource, selectively distributing the budget, and controlling access to the resource. In this way, it is possible to determine the number of accesses to the resource that can be accomplished for a particular resource price and distributed budget. Information about the number of accesses that can be accomplished can then be used, for example, to determine whether or not to adjust access such as by increasing the price to a point that the number of further accesses to the resource is either reduced or completely denied. Dependent claim 37 has been added to point out that a component can be charged for more than one accesses to the resource.

Also discussed at the interview was a rejection of claim 31 under 35 USC 101. The Examiner accepted applicants' proposal to add the phrase "and paid electronically over said electronic system" to overcome this rejection.

Accordingly, it is respectfully submitted that independent claims 1, 9, 11, 12, and 31 are allowable over Ginter and Glassman. All dependent claims should therefore also be allowable. Favorable reconsideration of the claims, as amended herein, is respectfully requested.

In view of the foregoing amendments and remarks, the application is now believed to be in proper format for allowance of all claims and a notice to that effect is earnestly solicited.

If there are any issues that remain, the undersigned requests that the Examiner contact him to discuss these issues so that applicants may put the present application in condition for allowance.

Respectfully submitted,
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Date: November 14, 2003

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